

21494

JPRS: 5183

CSO : R-75-N/J

SELECTED TRANSLATIONS OF

ABSTRACTS IN REFERATIVNYY ZHURNAL - BIOLOGIYA, No. 6, 1959

This report consists of complete translations of the Russian-language abstracts of articles, which were originally published in the Sino-Soviet bloc and in Yugoslavia.

The Soviet subject classification system used in the original Russian language abstracts has been followed in this publication.

19981211
061



Reproduced From
Best Available Copy

DTIC QUALITY INSPECTED 3

Country : USSR
Category : Soil Science. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24568

Author : Yastrebov, M. T.
Inst : Academy of Sciences USSR.
Title : Natural Radioactivity of the Zonal Soils in
the European Part of USSR,
Orig Pub : Dokl. AN SSSR, 1958, 119, No 3, 586-589

Abstract : Determination results of the over-all natural
radioactivity of the zone soils (NRZS), loca-
ted along the meridian from Moscow to the
Krimean southern shores are reported (June-
July 1955). According to the absolute sizes
of the over-all NRZS, the investigated soils
are arranged in the following order: peaty-
podzol, heavy chernozem, light chernozem,
brown forest on scaly schists. In the appea-

Card : 1/2

Country : USSR
Category : Soil Science. General. J

Abs Jour : RZhBiol., No 6, 1969, 24569

Author :
Inst :
Title :
Orig Pub :
Abstract : rance of the over-all NRZS, water and to some
extent cosmic factors have great significance.
-- P. V. Shramko

Card : 2/2

Country : USSR J
Category : Soil Science. General.
Abs Jour : RZhBiol., No 6, 1959, No 24569
Author : Tur, P. Z.
Inst : L'gov Experimentally Selective Station.
Title : The Effect of Perennial Grasses on Soil Fer-
tility Changes.
Orig. Pub. : Byul. nauchno-tekhn. inform. L'govsk. optytno-
seleks. st., 1958, vyp. 1, 39-43
Abstract : In Kurskaya Oblast the effect of the grass mix-
ture - clover plus alfalfa plus fescue - on the
fertility of the chernozem soil has been stu-
died from the year 1948. The grass harvest in
the first year of its use was 40-45 and in the
second year 50-55 c/ha. More than two-thirds
of the entire quantity of roots is found in
the upper 10 cm layer of the soil. The grasses

Card : 1/2

Country : USSR J
Category : Soil Science. General.
Abs Jour : RZhBiol., No 6, 1959, No 24569
Author :
Inst :
Title :
Orig Pub :
Abstract : improve the physical properties of the soil.
Content of the biologically active organic
substance in the soil is visibly increased.
--- A. M. Smirnov

Card : 2/2

Country : CZECHOSLOVAKIA
Category : Soil Science. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24572

Author : Tjaglo, G.
Inst : Czechoslovakian Academy of Agricultural Science.
Title : A New Method for the Obtaining of Soil Mono-
liths.
Orig Pub : Sbor Ceskosl. akad. zemed. ved. Rada-Rostl.
vyroba, 1956, 29, No 3, 203-212

Abstract : A device is described, by means of which a thin layer of soil is cut off under laboratory conditions from a soil monolith (measuring 25 x 25 x 105 cm). In a special frame the soil specimen is treated at average humidity with colorless nitrocellulose lacquer. The latter solidifies the soil, preserving the natural color of the soil horizons. The

Card : 1/2

Country : CZECHOSLOVAKIA
Category : Soil Science. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24572

Author :
Inst :
Title :
Orig Pub :

Abstract : soil monolith, obtained in this manner, is kept under glass for a long time.

Card : 2/2

Country : USSR
Category : Soil Science. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24573

Author : Uspanov, U. U.
Inst : Institute of Soil Science AS KazSSR.
Title : Works of the Institute of Soil Science AS Kaz-
SSR in the Regions of Virgin and Waste Lands.
Orig Pub : Tr. In-ta pochvoved, AN KazSSR, 1957, 7,
 3-6

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. General. J

Abs Jour : RZhBiol., No 6, 1959, 34574

Author : Fat'yanov, A. S.
Inst : Gor'kov State Pedagogical Institute.
Title : Importance of the Economic Activity of Man in
the Development of the Northern Forest-and-
Steppe Soil Cover.
Orig Pub : Uch. zap. Gor'kovsk. gos. ped. in-t, 1958,
 20, 34-58

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. General. J
Abs Jour : RZhBiol., No 6, 1959, 24577
Author : Semchenkov, G. Ya.
Inst : Belotserkov' Agricultural Institute.
Title : Properties and Fertility of the River Ros'
Water-Meadow Soils.
Orig. Pub : Nauchn. zap. Belotserkovsk. s.-kh. in-t,
1958, 5, 211-219
Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24581
Author : Labenets, Ye. M.
Inst : Soil Science Institute AS USSR.
Title : Mineralogical Composition of Fractions Larger
than 0.001 mm in Soils of the Central Part of
Kizyl-Arvat Foot-of-the-Mountain Plain.
Orig Pub. : Tr. Pochv. in-ta AN SSSR, 1958, 53, 39-50
Abstract : A mineralogical composition of fractions larger
than 0.001 mm of takyr soil, of alluvial perio-
dically-inundated soil, primitive sierozem and
of laomy soils from temporary river beds is
submitted. Investigations were conducted with
the assistance of a polarizing microscope and

Card : 1/5

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24581

Author :
Inst :
Title :
Orig Pub :

Abstract : immersed liquids. The basic components of the mineralogical composition of the fractions are quartz, feldspar (principally, albite and microcline) and mica; the accessory minerals are hornblende, epidote, chlorite, cyocite, pyroxene and in smaller quantities titanite, granite, circoe and rutile. Usually there are

Card : 2/5

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24581

Author :
Inst :
Title :
Orig Pub :

Abstract : present transparent ore minerals. With the decrease of the fractions' sizes, the mica content is increased and the contents of quartz and feldspar are decreased. For the takyr soil, feeble signs of biochemical weathering of minerals and a slight rolling capacity of the grains are noted. In alluvial

Card : 3/5

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24581

Author :
Inst :
Title :
Orig Pub :

Abstract : soils, considerable contents of mica and feldspar are noted, as well as cyosite. In primitive sierozem, the quantity of quartz increases. Appearance of sericitized and modified minerals are observed. The mineralogical composition of loamy scils is distinguished by an increase of the mica content. Data of

Card : 4/5

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24581

Author :
Inst :
Title :
Orig Pub :

Abstract : the total chemical analyses of the fractions, obtained from takyr soils, are submitted. An increase of Mg content in the finer fractions and their impoverishment of Ca is noted. --
N. I. Bazilevich

Card : 5/5

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, 24582

Author : Gorbunov, N. I.
Inst : Soil Institute AS USSR.
Title : Mineralogical Composition and Properties
of Suspended Matter in the Amu-Dar'ya and
Kura Rivers.

Orig Pub : Tr. Pochv. in-ta AN SSSR, 1958, 53, 51-53

Abstract : Suspended matter of the Kura River and its
tributaries is richer in silt fractions
(45.5-57.9 percent) than the suspended mat-
ter of the Amu-Dar'ya River. Study of the
mineralogical composition of the suspended
matter's silt fractions was conducted by
thermal, rentgenographic methods and occasio-

Card : 1/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24582

Author :
Inst :
Title :
Orig Pub :
Abstract : nally with the aid of an electronic micro-
scope. Beydellite and hydromica were identi-
fied in the suspensions; beydellite predomina-
tes in the suspensions of the Kura River, and
hydromica in Amu-Dar'ya. The exchange capacity
of a fraction less than 0.001 mm, from the
Kura's suspended matter constituted more than

Card : 2/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24582

Author :
Inst :
Title :
Orig Pub :

Abstract : 46 milliequivalents, that of Amu-Dar'ya did not exceed 36 milliequivalents; the maximal hydroscopicity amounted to 20-23 percent and about 18 percent, respectively. The silt fraction of Kura's suspended matter was somewhat richer in R_2O_3 and poorer in SiO_2 than Amu-Dar'ya's suspensions. The ratio of $SiO_2 : R_2O_3$ was larger than 3 and smaller than 3, respecti-

Card : 3/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24582

Author :
Inst :
Title :
Orig Pub :

Abstract : vely. The differences of the mineralogical composition and physico-chemical and physical properties condition the different effect of irrigating waters on the properties of the soils. -- N. I. Basilevich

Card : 4/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author : Yarilova, Ye. A.
Inst : Soil Institute AS USSR.
Title : Mineralogical Characteristics of Solonetz
Soils in the Chernozem Zone.
Orig Pub : Tr. Pochv. in-ta AN SSSR, 1958, 53, 131-142

Abstract : By the micromorphological method with the
aid of microscopic sections under a micro-
scope and by the method of mineralogical ana-
lysis in immersion liquids, two solonetz
soils in the chernozem zone, representing suc-
cessive stages of the solonetz developmental
process in chernozem soil, were studied. The
development of the solonetz process over the

Card : 1/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author :
Inst :
Title :
Orig Pub :
Abstract : chernozem soil brought about important chan-
ges of the mineralogical composition in 50
years. Gypsum and tenardite appeared; the
soil became enriched with Ca in the micro-
crystalline form due to the migration of the
solutions to the surface horizons. The for-
mation of iron-manganese-humus concretions

Card : 2/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author :
Inst :
Title :

Orig Pub :

Abstract : takes place with greater intensity, thanks to the periodic advent of anaerobic conditions; a dispersion of the minerals is observed, particularly of crystalline quartz; there appeared the absent-in-the-chernozem mobile colomorphic argillaceous mineral. According to its properties and chemical composition, the latter is closely related to ferrous beydellite. The

Card : 3/4

Country : USSR
Category : Soil Science. Physical and Chemical Properties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24583

Author :
Inst :
Title :

Orig Pub :

Abstract : migration of this mineral from the upper horizons to the alluvial ones are noted. The migration is accomplished, it seems, in complex with fulvic acids and mobile humous acids. Specific secondary argillaceous minerals, inherent to the solonetz-soil formation only, were not found. -- N. I. Bazilevich

Card : 4/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24586
Author : Nikol'skiy, N. N.
Inst : Moscow Agricultural Academy imeni K. A. Timi-
ryazev.
Title : The Effect of Hydroxide Solutions of Mono-
and Bivalent Minerals on the Water Resistance
of the Chernozem's Soil Aggregates.
Orig Pub : Dokl. Mosk. s.-kh. akad. im. K. A. Timiry-
zeva, 1957, vyp. 31, 228-234
Abstract : The effect of the hydroxide solutions of Na,
K, Ca, Mg and Ba on the structure stability
of the chernozem virgin lands in Kamen Steppe
was compared. The soils were from under the
forest and from old arable lands. The effect
of alkaline and acid solutions from a pH higher
Card : 1/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24586
Author :
Inst :
Title :
Orig Pub :
Abstract : than 12 to a pH of 2 during 24 hours did not
display a more destructive action on the water-
resistant soil aggregates than the action of
distilled water; experiments with KOH and NaOH
were the exception. Solutions of Ba and K hydro-
xydes produced a higher content of water-resi-
stant aggregates than did experiments with wa-
ter. The Mg hydroxyde solution did not differ

Card : 2/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24586
Author :
Inst :
Title :
Orig Pub :

Abstract : from water in its effect, and NaOH and KOH
solutions decreased the content of water-resis-
tant aggregates in the soil. The resistance
of the aggregates in the soil is decreased with
the increase of the concentration of NaOH solu-
tions. -- M. L. Yaroshenko

Card : 3/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24590
Author : Danilin, A. I.
Inst : Scientific Research Institute of Hydrometeorolo-
gical Apparatus Construction.
Title : The Ohmic Method of Measuring Soil Humidity
with the Application of Carbon Electrodes in
Glass Fibers.
Orig Pub : Tr. N.-i, in-ta gidrometeprol. priborostr.,
1957, vyp. 5, 52-78
Abstract : Simple and cheap producers of soil humidity
(carbon and gypsum) were developed, which make
it possible to measure soil humidity ranging
from field-water capacity to the atmospheric
dry state. Intermediate media - glass fibers,

Card : 1/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24590

Author :
Inst :
Title :
Orig Pub :

Abstract : gypsum or river sand - are used to improve re-
finement of the work. Satisfactorily accurate
data are obtained with the application of a
megohm meter of the M-1101 type. Bibliography
of 12 titles. -- I. G. Tayurupa

Card : 2/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24591

Author : Vladychenskiy, S. A.
Inst :
Title : A Few Remarks about the Problem of Water-Re-
gime Types.
Orig Pub : Pochvovedeniye, 1958, No. 6, 118-119

Abstract : Refinement and classification of the water-re-
gime types, developed by A. A. Rode, is propo-
sed. Particularly, it is proposed to differen-
tiate the stagnant type of the water regime for
bog and boggy soils, the water-meadow type of
the water regime and the water-regime type of
sands and sand soils. -- S. A. Vladychenskiy

Card : 1/1

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24593
Author : Konstantinov, A. R.; Molchanov, A. L.
Inst : Kazakhstan Scientific Research Hydrometeorolo-
gical Institute.
Title : Evaluation of Evaporation Changes and Water
Balance of the Soils in the Steppe and Forest-
and-Steppe Zones of the USSR European Territory
under the Influence of Agricultural and Forest
Amelioration Measures.
Orig Pub : Tr. Kazakhsk. n.-i. gidrometeorol. in-ta, 1957,
vyp. 8, 64-93
Abstract : In the past, during unscientific agriculture,
about 86 percent (353 mm) was consumed by eva-
poration from the total amount of precipitation
for these territories, 11 percent (46 mm) was used
up for surface drainage and 3 percent
(14 mm) flowed underground. Approximate com-
putations of the water balance for the next
decades were presented. -- S. A. Nikitin
Card : 1/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24593
Author :
Inst :
Title :
Orig Pub :
Abstract : used up for surface drainage and 3 percent
(14 mm) flowed underground. Approximate com-
putations of the water balance for the next
decades were presented. -- S. A. Nikitin

Card : 2/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24595

Author : Bazilevskaya, Ye. S.

Inst :

Title : Characteristics of the Filtration Properties
of Soils and Suspended Matter in the Amu-Dar'-
ya River.

Orig Pub : Pochvovedeniye, 1958, No. 4, 102-107

Abstract : With the help of Russell's apparatus (impro-
ved by Gotikov), the water permeability of
soils in the agriculture-irrigated alluvia
and suspended material, collected in Chimbay
Oasis (delta of Amu-Dar'ya), was determined.
The investigation was conducted on fractions
of 0.1-0.01 mm, 0.005-0.01, 0.001-0.005 and

Card : 1/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24595

Author :

Inst :

Title :

Orig Pub :

Abstract : smaller than 0.001 mm, obtained from soils and
suspensions, in their mixtures and specimens
on the whole. Filtration speed was determined
through layers of 5-10 mm. The filtration speed
decreased with the increase of soil dispersion:
a fraction of 0.001-0.005 mm has a filtration
capacity of 15 ml in 1 hour, and a fraction of
less than 0.001 mm has a filtration capacity

Card : 2/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24595

Author :
Inst :
Title :
Orig Pub :

Abstract : of 1.2 ml at the layer's thickness of 5 mm.
With the increase of the number of layers, their
thickness and percolation time of water through
the soil, a decrease of the filtration speed is
observed. Bibliography of 18 titles. -- N. G.
Minashina

Card : 3/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24598

Author : Chernov, V. A.
Inst : Academy of Sciences USSR.
Title : Concerning the Dependence between the Total
Exchangeable Cations and the Content of Par-
ticles of Less than a Micron in Podzol Soils.
Orig Pub : Dokl. AN SSSR, 1958, 119, No 5, 1017-1019

Abstract : Using the soils of Kaliningradskaya Oblast as
an example, it was demonstrated that a close
dependence between the sum of absorbed bases
and the content in soil specimens of particles,
less than 1 mu, may serve as a method for dia-
gnosis of soil-formation rocks.

Card : 1/1

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24599

Author : Dzhavadyan, T.
Inst : -
Title : Securing the Soils of Karabakh Steppe with
Nutrient Elements.
Orig Pub : Sotz. s. kh. Azerbaydzhana, 1957, No. 6,
28-30

Abstract : Meadow soils, located in Karabakh Steppe
(Azerbaydzhana), contain 213.4-246.7 t/ha of
organic substances and up to 15.3 of total N,
7.9 t of total P and 5.5 t of exchangeable
K. The gray-brown soils contain, respecti-
vely, 75.8-84.4, 6.8-12.4, 7.1; of total K
44-53.3 t/ha. In comparison with meadow soils,
they contain five times more of easily hydro-

Card : 1/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24599

Author :
Inst :
Title :
Orig Pub :
Abstract : lyzable N. The sierozems are poor in total N
(5.6 t/ha), but contain sufficient reserves
of easily-hydrolyzable N. Reserves of assi-
milated phosphoric acid are not large (0.077
t/ha). According to reserves of total K, they
exceed all other soils, but in comparison with
exchangeable K, they occupy last place. These

Card : 2/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, 24599

Author :
Inst :
Title :

Orig Pub :

Abstract : soils require organic substances for their
enrichment. -- S. A. Nikitin

Card : 3/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24601

Author : Koren'kov, D. A.

Inst : -

Title : Determination of Ammonia and Nitrates in Soil
(Method of Microdiffusion in the Modification
of Bremner and Shaw).

Orig Pub : Udobreniya i urozhay, 1958, No. 8, 57-58

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24602

Author : Aderikhin, P. G.
Inst : -
Title : Absorption of Phosphate Ions by Soils and
Plants.
Orig Pub : Pochvovedeniye, 1957, No. 5, 84-89

Abstract : Under field experiments of 1950-1955, on
clayey alkaline chernozem of the Voronezh
University Botanical Garden, 90 kg of P₂O₅
(in the form of P_s), 60 kg of N (in the form
of (NH₄)₂SO₄) and 60 kg of K₂O (in the form
of KCl) were introduced in the ground to a
depth of 5-8 cm. The count of the phosphates
was conducted according to the plan of F. V.

Card : 1/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24602

Author :
Inst :
Title :
Orig Pub :
Abstract : Chirikov. The introduced P_s was rapidly absor-
bed by the soil, principally in its arable ho-
rizon with transition into compounds soluble
in acetic acid and then into compounds soluble
in 0.5 n. HCl. After preliminary (annually, up
to 6 years) treatment by the phosphates, the
P₂O₅ absorption by the soil perceptibly dimi-
nished. The introduction of N and K did not

Card : 2/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24602

Author :
Inst :
Title :
Orig Pub :

Abstract : affect the P_2O_5 content in the soil. The ma-
ximum absorption of P by spring wheat and corn
was observed at the beginning of development;
the minimum, at the end. -- B. Ye. Kravtsova

Card : 3/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24605

Author : Kardinalovs'ka, R. I.
Inst :
Title : Determination of Absorbed Potassium in Soils
with the Aid of Sodium Tetraphenylborate.
Orig Pub : Byul. nauchn. inform. po zemlerobstvu, 1958,
No. 3, 64-66

Abstract : Results are submitted for the content determi-
nation of absorbed potassium in the soils with
the aid of sodium tetraphenylborate, hydrochlo-
ric acid and the cobalt nitrite method (Milne
Modification). A wide application at the mas-
sive analyses of the soils is recommended -
the method of determination with the aid of

Card : 1/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24605

Author :
Inst :
Title :
Orig Pub :

Abstract : sodium tetraphenylborate. This method may
be used to obtain rapidly data of adequate ac-
curacy (± 2 percent). -- P. V. Shramko

Card : 2/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24606

Author : Zyrin, N. G.; Orlov, D. S.
Inst : Moscow University.
Title : Determination Methods of the Activity of So-
dium Ions in Soils and Soil Solutions.
Orig Pub : Vest. Mosk. un-ta, Ser. biol. pochvoved., geol.,
geogr., 1958, No. 1, 71-80

Abstract : The activity of sodium ions in soils and soil
solutions may be determined by a special glass
electrode with Na-function with the aid of a
lamp potentiometer. The magnitude of activity
is closely connected with the genetic pecula-
rities of certain soils and may serve as a
method for an approximate diagnosis of solo-
netz and saline soils. For these purposes, it

Card : 1/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24606

Author :
Inst :
Title :
Orig Pub :

Abstract : is recommended to utilize the pNa index (the negative logarithm of the Na-ions' activity). This same method is also useful in determining the concentration of sodium ions in saline extracts from the soils under conditions of the application of 0.4 m CaCl₂. -- D. S. Orlov

Card : 2/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24607

Author : Kopteva, Z. F.
Inst : Timiryazev Agricultural Academy.
Title : Concerning the Study of Sesquioxides' Sea-
sonal Dynamics in Peaty-Podzol Soils.
Orig Pub : Izv. Timiryazovsk. s.-kh. akad., 1958, Nol 1,
217-220

Abstract : A method for determining mobile forms of ses-
quioxides is briefly described. This method
permits one to analyze Fe Ferrous or ferric),
Al and Mn. The method may be utilized under
field conditions when working with wet soil
specimens. -- A. M. Smirnov

Card : 1/1

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24608

Author : Tsyurupa, I. G.
Inst : Soil Institute AS USSR.
Title : Effect of the Crystallization Degree of Iron
Compounds on Their Solubility.

Orig Pub : Tr. Pochv. in-ta AN SSSR, 1958, 53, 113-130

Abstract : The quantity of abstracted Fe, diluted by
acids, gives an idea of the crystallization
degree of its compounds in soils. Natural com-
pounds of Fe, depending upon their solubility
in mineral acids, are subdivided into several
groups: (1) stable minerals of the Fe oxide
and hydroxide groups (incapable of serving as

Card : 1/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24608

Author :
Inst :
Title :
Orig Pub :
Abstract : a source of free Fe accumulation in soils);
(2) comparatively stable secondary formations
(limonite, bauxite) - the clayey minerals, fer-
ri-halloysite, nontronite - belong to this group;
(3) soluble clayey minerals (for instance, bio-
tite) and secondary soil formations (the latter
are capable of serving as a source of free Fe
accumulation in the soil). It is indicated that

Card : 2/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24608
Author :
Inst :
Title :
Orig Pub :

Abstract : at a prolonged action of acid solutions (par-
ticularly, under reducing conditions), Fe is
extracted even from the most stable minerals.
The action of Tamm's reaction on various Fe
compounds is determined, on the whole, not by
the crystallization degree, but by the compo-
sition of these compounds. Thus, Tamm's rea-
gent extracts comparatively a great deal of Fe

Card : 3/4

Country : USSR
Category : Soil Science, Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24608
Author :
Inst :
Title :
Orig Pub :

Abstract : from the alluvial horizons of podzol soils,
but has almost no action on the amorphous Fe
hydroxide. H_2S acts less energetically on Fe
compounds than 1 n. H_2SO_4 . -- N. I. Bazile-
vich

Card : 4/4

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24611

Author : Batalin, A. Kh.; Bogdanova, Ye. S.; Popova,
A. A.; Sadovskaya, L. V.; Filimonova, Z. G.;
Khmelevskaya, N. A.; Shtark, P. A.

Inst : All-Union Chemical Society imeni D. I. Men-
deleyev

Title : The Contents of Boron, Cobalt, Copper, Mo-
lybdenum, Nickel, Manganese and Fluorine in
Certain Soils of the Sorochinskiy Rayon in
Chkalovskaya Oblast.

Orig Pub : Vest. Chkalovskogo obl. otd. Vses. khim.
o-va im. D. I. Mendeleyeva, 1957, vyp. 7, 7-9

Abstract : Determination of the microelements was conduced
in the arable and subarable horizons of
chernozem soils under different cultivations.

Card : 1/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24611

Author :

Inst :

Title :

Orig Pub :

Abstract : Analyses were conducted according to the me-
thods of the Institute of Geochemistry and
Analytical Chemistry AS USSR. The contents of
the microelements fluctuate percentagewise: B, 0.000053-0.0017; Co, 0.000045-0.00045; Cu, 0.0002-0.011; Mo, 0.00011-0.036; Ni, 0.0000018-0.00064; Mn, 0.0027-0.067; F, 0.0013-0.061. The quantity of the microelements in the inve-

Card : 2/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24611
Author :
Inst :
Title :
Orig Pub :
Abstract : stigated soils corresponds to their average
content in the chernozem soils of the USSR.
— M. N. Kudryavtsev
Card : 3/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24612
Author : Gol'tman, A. D.; Gurevich, V. G.
Inst : Khar'kov Pharmaceutical Institute.
Title : Determination of Water-Soluble Compounds of
Boron in Soils.
Abstract : Technique of B extraction from the soil: 5 g
of atmosphere-dry soil is placed into a glass
flask of 25 ml, adding 10 ml of distilled wa-
ter. The flask is immersed in water, heated
to 55° for 30 minutes, mixing its contents
every 5 minutes. In 20 minutes after the end
of heating, the liquid is filtered through a
glass with porous or saltless filter. In the
aliquot portion, the B content is determined
by the curcumin method by means of a filter

Card : 1/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24612

Author :
Inst :
Title :
Orig Pub :

Abstract : photometer. Experimental results on the study of the interfering effect of substances, extracted together with B by the water from the soil, are presented. A correction coefficient for the calculation of these substances is submitted.

Card : 2/2

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24613

Author : Malyaga, D. P.
Inst :
Title : An Experiment in Biologic-Geochemical Prospecting for Molybdenum in Armenia.

Orig Pub : Geokhimiya, 1958, No. 3, 248-266

Abstract : The distribution of Mo in soils and plants of the Kadzharan mountain region in Armenia was studied. Copper-molybdenum deposits may be made visible by the dispersion sureols of the ore elements. In the deposit regions, the Mo content in soils, water and plants exceeds by hundreds of times its usual content in the bio-

Card : 1/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24613

Author :
Inst :
Title :
Orig Pub :

Abstract : sphere. A definite correlation between the Mo and Cu contents in rocks (ores) and their contents in soils and plants is established. The submitted charts of Mo isoconcentration in soils and plants permits to map the dispersion aureole in the district of the Okhcha River's left bank. Mining prospecting operations in the region's abnormality uncovered two large ore zones, rich

Card : 2/3

Country : USSR
Category : Soil Science. Physical and Chemical Proper-
ties of Soils. J

Abs Jour : RZhBiol., No 6, 1959, No 24613

Author :
Inst :
Title :
Orig Pub :

Abstract : in Cu and Mo. The task was fulfilled in the Institute of Geochemistry and Analytical Chemistry AS USSR. Bibliography of 25 titles.
— Yu. I. Dobritskaya

Card : 3/3

Country : USSR J
Category : Soil Science. Biology of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24614

Author : Suslova, Ye. V.
Inst : Northern Osetin Agricultural Institute.
Title : Organic Substances of Chestnut Soils in the
Eastern Pre-Caucasus.
Orig Pub : Tr. Severo-Osetinsk. s.-kh. in-ta, 1956, 17,
55-64

Abstract : Certain physico-chemical properties of the
Eastern Pre-Caucasian soils are briefly exa-
mined. The nature of free and mobile humic
acids in the chestnut soils and Pre-Caucasian
chernozems is similar. The free and mobile hu-
mic acids in light-chestnut soils are less re-
sistant to the coagulating action of CaCl_2 ,
and their optical denseness is higher than the
chestnut soils', thus bearing witness to the

Card : 1/2

Country : USSR J
Category : Soil Science. Biology of Soils.

Abs Jour : RZhBiol., No 6, 1959, No 24614

Author :
Inst :
Title :

Orig Pub :

Abstract : great complexity of the molecules in the free
and mobile acids of the described light-chest-
nut soils. -- S. A. Nikitin

Card : 2/2

Country : USSR J
Category : Soil Science, Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24617
Author : Galstyan, A. Sh.
Inst : Academy of Sciences ArmSSR.
Title : Study of the Comparative Activity of Catalase in Some Types of Armenian Soils. Communication I.
Orig Pub : Dokl. AN ArmSSR, 1956, 23, No. 2, 61-65

Abstract : Carbonate, chestnut and brown soils possess the greatest catalase capacity to decompose H₂O₂. Lixiviated chernozem is characterized by the least catalase activity. This soil, at the reciprocal action with H₂O₂, in the first minute produces only 4.1 cm³ of O₂, but the carbonated chestnut soil produces 15.4 cm³. The high catalase activity in the latter

Card : 1/3

Country : USSR J
Category : Soil Science, Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24617
Author :
Inst :
Title :
Orig Pub :

Abstract : soils, apparently, finds itself in conformity with more intensive microbiological activity. The catalase activity in all soils appears weaker at the beginning of spring, increases in summer and then once again diminishes. The catalase activity along the soil profiles from top to bottom decreases. After sterilization of the soils, liberation of oxygen from them is lowered. Decomposition of H₂O₂ possesses not only

Card : 2/3

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No. 24617
Author :
Inst :
Title :
Orig Pub :

Abstract : a biological character, but inorganic catalysts also participate in this process. --
S. A. Nikitin

Card : 3/3

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24620
Author : Burangulova, M. N.; Solov'yeva, Ye. P.
Starikova, Ye. I.
Inst :
Title : Biological Properties of Certain Soils Beyond
the Ural Mountains.
Orig Pub : V sb.: Vopr. proizvodit. ispol'zovaniya pri-
rodn. rezursov Bashkirsk. Zaural'ya, Ufa, 1957,
15-21

Abstract : Soils of the regions beyond the Ural mountains,
especially non-arable soils, are distinguished
by a considerable reserve of humus and total
P. Biological activity of the soils perceptably
is reduced from the south to the north. Aerobic
processes prevail in all the investigated soils

Card : 1/2

Country : USSR
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24620
Author :
Inst :
Title :
Orig Pub :

Abstract : (except the virgin lands). Nitrogen-fixation bacteria multiply more favorably under leguminous perennial grasses. Their greatest number is noted on lixiviated, podzol and rich chernozem. Cellulose-destroying bacteria and ammonia producing organisms are widely represented in lixiviated and podzol chernozems. In all soils, the amount of nitrogen-producing organisms is insignificant. -- G. N. Nesterova

Card : 2/2

Country : USSR
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24624
Author : Samoylov, I. I.
Inst : Academy of Sciences USSR.
Title : Microbiology and Problems of Soil Treatment.
Orig Pub : (Conference of Microbiologists in Leningrad,
5-10 February 1958.)
Orig Pub : Vestn. AN SSSR, 1958, No. 6, 114-115

Abstract : No abstract.

Card : 1/1

Country : POLAND
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, 24625
Author : Golebiowska, J.
Inst :
Title : Application of Lockhead's Method for the Investigation of the Distributed-in-Soil Microorganisms, Causing Transformation of Phosphorus.
Orig Pub : Acta microbiol. polon., 1957, 6, No. 1, 17-27

Abstract : With the aid of Lockhead's method (Soil Sci., 1943, 55, 185; Canad. J. Res., 1938, 166, 152) the distribution in soils (sand, sandy loam, loess) and in the rhizosphere (oat, lupine, potato) of microorganisms, causing the transformation of various P compounds, was studied. The effect of the soil types and

Card : 1/2

Country : POLAND
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24625
Author :
Inst :
Title :
Orig Pub :

Abstract : developmental stages of plants on the numbers of the investigated microorganisms was demonstrated. -- M. I. Nakhimovskaya

Card : 2/2

Country : BULGARIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24627
Author : Dinchev, D.
Inst : Ministry of Agriculture and Forestry.
Title : Reaction between Superphosphates and Soil
Bacteria.
Orig Pub : Nauchni tr. M-vo zemed. i gorite. Ser. ra-
steniyev'datvo, 1957, 2, No. 4, 21-34
Abstract : The effect of powderlike and granulated (mi-
neral and with organic substances) superphos-
phates on the soil microflora and the migra-
tion of the dissolved phosphoric acid from
the granules has been investigated in typical
chernozem, "tar-chernozem," gray forest soil
and lixiviated brown forest soil. A consid-
erable increase in the amount of microorganisms
is observed in all soils around the granules:
Card : 1/6

Country : BULGARIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, 24627
Author :
Inst :
Title :
Orig Pub :
Abstract : at the same time, the amount of microorganisms
is greater around the mineral granules than
around the organic-mineral ones. For example,
in the gray forest soil, the amount of micro-
organisms around the granules in a layer of
0-3 cm is greater by four times in the first
instance and by 2.5 times in the second in-
stance than in soil without the granules. In
other soils (typical and lixiviated), a small
Card : 2/6

Country : BULGARIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24627
Author :
Inst :
Title :
Orig Pub :

Abstract : increase takes place. Mineral granules produce a stronger but shorter stimulating effect than organic-mineral granules; the powderlike superphosphate stimulates microflora development in a lesser degree than the granulated superphosphate. Phosphoric acid passes from the granules into the soil in a greater amount from the mineral granules than from the organic-mineral ones. Thus, in gray forest

Card : 3/6

Country : BULGARIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24627
Author :
Inst :
Title :
Orig Pub :

Abstract : soil after 20 days around the mineral granule in a layer of 0.3 cm, there is 12.5 times more dissolved phosphoric acid and 7.6 times more around the organic-mineral granules than in soil under control. Farther movement of the phosphoric acid into the soil depends on the physical properties of the soil. The granulated superphosphate changes the qualitative composition of bacteria in the soil.

Card : 4/6

Country : BULGARIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24627
Author :
Inst :
Title :
Orig Pub :

Abstract : Fluorescent bacteria are found in the immediate vicinity of the granules; they constitute 86-90 percent of the total number of bacteria, growing of "MPA" medium. The observable increase in the harvest of the oats' green mass, at the treatment with superphosphates, the author explains, is due not only to the improvement of supplying the plants with phosphoric compounds, but also to the

Card : 5/6

Country : BULGARIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24627
Author :
Inst :
Title :
Orig Pub :

Abstract : development of fluorescent bacteria, which are useful for plants. -- V. V. Mikhaleva

Card : 6/6

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24628
Author : Muromtsev, G. S.
Inst :
Title : Concerning the Products of the Soil-Microorganisms' Activity in the Mobilization of P₂O₅ Phosphorites.
Orig Pub : Agrobiologiya, 1957, No. 11, 96-103

Abstract : The solution of Ca phosphates by soil bacteria in connection with a change of the pH medium and the reproduction intensity of the microbe culture was investigated by the author in a semisynthetic glucose-aspartic medium with 0.02 corn extract and with fluoapatite as a source of P. A direct dependence between the change of the pH medium and the

Card : 1/4

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24628
Author :
Inst :
Title :
Orig Pub :
Abstract : intensity of the fluoapatite solution was not noticed: bacteria, related to *Bacterium herbicola* (2a and 2b), liberated 2.79-1.70 gamma/ml of P₂O₅, the pH medium attaining 4.15-3.95 at 6.3 under control; *Mycobacterium cyaneum* (19 a) attained 2.095 gamma/ml at the pH of 6.6; the culture of 3a attained 0.825 gamma/ml at the pH of 8.05, and the culture, related to *Ps. radiobacter*, 0.195 gamma/ml at the pH of 6.65.

Card : 2/4

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24628
Author :
Inst :
Title :
Orig Pub :

Abstract : The author, on the basis of literary data, explains the P mobilization from the phosphates by the formation of dissociated-with-difficulty organometallic complexes at the reciprocal action of the microorganisms' activity and the phosphates. Confirming this, a direct connection between the magnitude of the biomass accumulation and the quantity of the mobilized P (especially, the cultures of 2a and 19a) is

Card : 3/4

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24628
Author :
Inst :
Title :
Orig Pub :

Abstract : noted. At the same time, the dissolved P almost completely attached itself to the bodies of the bacteria. On this basis, the author deduces that the biological mobilization of phosphorus is not always accompanied by a simultaneous increase in the quantity of free phosphorus in the medium. -- V. V. Mikhaleva

Card : 4/4

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24629
Author : Krasil'nikov, N. A.; Kotelev, V. V.; Sabel'-
nikova, V. I.; Sergeyeva, N. V.
Inst * : Moldavian Branch of AS USSR.
Title : The Effect of Soil Bacteria on the Assimila-
tion by Plants of Phosphorus from Tricalcium
Phosphate.
Orig Pub : Izv. Mold. fil. AN SSSR, 1957, No. 9, (42),
127-133
Abstract : Barley, in sand cultivation with $\text{Ca}_3(\text{PO}_4)_2$
marked with P^{32} as a source of phosphorus, was
grown under sterile conditions with the addi-
tion of bacteria cultures, which were isolated
from the Moldavian soil and which decompose
tricalcium phosphate. Bacterization increa-
sed P assimilation by the plants and their con-

Card : 1/2

Country : USSR J
Category : Soil Science. Biology of Soils.
Abs Jour : RZhBiol., No 6, 1959, No 24629
Author :
Inst :
Title :
Orig Pub :
Abstract : tent of water-soluble, protein and lipoidal
P. Bacterization affected the qualitative com-
position and quantity of amino acids (they
were analyzed chromatographically in an alco-
holic extraction of the plants) and also in-
creased the assimilation of P by barley in
the soil culture. -- T. M. Bushuyeva

Card : 2/2

Country : CZECHOSLOVAKIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24630
Author : Ridky, K.
Inst : Czechoslovakian Academy of Agriculture.
Title : The Role Played by Microbes in Plant Nutrition.
Orig Pub : Sbor. Ceskosl. akad. zemed. ved. Rostl. výroba, 1956, 29, No. 9-10, 813-840
Abstract : Data on the quantity dynamics of different groups of microorganisms under the conditions of grassfield crop rotations in connection with their harvest are presented. It was demonstrated, in particular, that the number of microbe mineralizers of the oil organic substances under grass mixtures find themselves in reverse relation to the plant harvests on these fields; this is noted es-

Card : 1/2

Country : CZECHOSLOVAKIA
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24630
Author :
Inst :
Title :
Orig Pub :
Abstract : pecially in the period preceding the gathering of the harvest, -- From the author's summary

Card : 2/2

Country : USSR
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24631
Author : Krasil'nikov, N. A.
Inst : -
Title : Concerning the Importance of Soil Microorganisms in Plant Nutrition (According to Materials of Soviet Microbiologists for the Past 40 Years).
Orig Pub : Microbiologiya, 1957, 26, No. 6, 659-672
Abstract : Review. Bibliography of 46 titles.

Card : 1/1

Country : USSR
Category : Soil Science. Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24632
Author : Rubenchik, L. I.
Inst : -
Title : Relations between Microorganisms and the Higher Plants.
Orig Pub : Mikrobiol. zh., 1957, 19, No. 3, 14-21
Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science, Biology of Soils. J
Abs Jour : RZhBiol., No 6, 1959, No 24633
Author : Kalnin'sh, A. D.
Inst : Institute of Microbiology AS LatvSSR.
Title : State of Investigations in the Region of
Soil Microbiology in the Latvian SSR.
Orig Pub : Tr. In-ta mikrobiol. AN LatvSSR, 1958, vyp.
7, 5-10
Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. General. J
Abs Jour : RZhBiol., No 6, 1959, No 24634
Author : Ogg, U. G.
Inst :
Title : The Application of Fertilizers in England.
Orig Pub : Vestn. s.-kh. nauki, 1958, No. 2, 127-130
Abstract : For the period of the years 1913-1916, the consumption of mineral fertilizers in Great Britain was greatly increased: N, 10 times; P₂O₅, twice, and K₂O, 13 times. In 1956, 4 million tons of fertilizers were applied to the soil. More than 20 kg of N and K₂O and 36 kg of P₂O₅ are introduced per one ha of the land's cultivated area. The greatest quantity of the mineral fertilizers is applied

Card : 1/4

Country : USSR
Category : Soil Science. Fertilizers. General. J
Abs Jour : RZhBiol., № 6, 1959, № 24634
Author :
Inst :
Title :
Orig Pub :

Abstract : under potatoes and sugar beets. Perennial grasses (meadow and pasture) are fertilized inadequately, and in the majority of the regions of the land are not fertilized at all. At the present time, about 50 percent of phosphoric fertilizers are applied in the form of the trivalent P's; 25 percent, in the form of Thomas slag; 10 percent, in the form of phosphoric meal. Among the nitrogen fertilizers

Card : 2/4

Country : USSR
Category : Soil Science. Fertilizers. General. J
Abs Jour : RZhBiol., No 6, 1959, No 24634
Author :
Inst :
Title :

Abstract : the following are widely used: Na, Naa + CaCO₃ (calcium ammonium nitrate), N_s, (NH₄)₂PO₄ and nitrophosphate. 60 percent of fertilizers are manufactured in Great Britain in the form of compounds. 90 percent of the compound and 50 percent of all fertilizers are manufactured in the form of granules. The tendency to increase the manufacture of concentrated fertilizers is characteristic. The most effective method of introducing P and K under grain, vegetables and

Card : 3/4

Country : USSR
Category : Soil Science. Fertilizers. General. J
Abs Jour : RZhBiol., No 6, 1959, No 24634
Author :
Inst :
Title :
Orig Pub :

Abstract : green peas is of local importance. For potatoes and sugar beets, this method of P and K application is of no significance. -- O. P. Medvedeva

Card : 4/4

Country : USSR
Category : Soil Science. Fertilizers. General. J
Abs Jour : RZhBiol., No 6, 1959, No 24636
Author : Vil'dflush, R. T.
Inst : Belorussian Agricultural Academy.
Title : Investigations of Agricultural Chemistry and Application of Fertilizers in the Belorussian Agricultural Academy.
Orig Pub : Tr. Belorusssk. s.-kh. akademii, 1957, 26, No. 2, 29-42
Abstract : A review of the tasks of the chair of agriculture in BSKhA from 1919. Bibliography of 50 titles.

Card : 1/1

Country : USSR J
Category : Soil Science. Fertilizers. General.
Abs Jour : RZhBiol., No 6, 1959, No 24637
Author : Turchin, F. V.
Inst : -
Title : Concerning the Perspective Requirements of
USSR Agriculture in Mineral Fertilizers and
in Their Expedient Assortment.
Orig Pub : Udobreniye i urozhay, 1958, No. 8, 7-12

Abstract : No abstract.

Card : 1/1

Country : USSR J
Category : Soil Science. Fertilizers. General.
Abs Jour : RZhBiol., No 6, 1959, No 24640
Author : Berezova, Ye. F.
Inst : -
Title : The Mutual Bond between Plants and the Micro-
flora of Their Root System.
Orig Pub : Agrobiologiya, 1956, No. 6, 22-28

Abstract : A positive role played by the denitrification organisms on the growth and development of plants is indicated. A correct combination of agricultural engineering with the conditions of plant nutrition is necessary. Otherwise the saprophytic forms of microorganisms (*B. macerans*) may acquire properties which would be pathogenic for plants. -- G. N. Nesterova

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24641

Author : Lupinovich, I. S.; Golub, T. F.; Vavula,
F. P.
Inst : Academy of Sciences BSSR.
Title : Concerning the Effect of Fertilizers on the
Fertility of Peat-Boggy Soils.
Orig Pub : Vestsi AN BSSR. Ser. biyal. n., 1956, No. 3,
5-14

Abstract : The joint application of lime, manure and
kainite on the peat-boggy soils of the low-
land type of the Minsk Bog Experimental Sta-
tion (1950-1953) caused considerable increase
in the soil of the quantity of ammonia-fixa-
tion bacteria, nitrification organisms, acti-
nomyces and spore-forming microorganisms. Mi-
neralization processes of the organic residues

Card : 1/2

Country : USSR
Category : Soil Science. Fertilizers. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24641

Author :
Inst :
Title :
Orig Pub :

Abstract : were intensified in the soil. The potato har-
vest in fertilized regions reached 173 percent
in comparison with the harvest on plots under
control. -- B. Kh. Sukhareva

Card : 2/2

Country : USSR
Category : Soil Science. Fertilizers. General. J
Abs Jour : RZhBiol., No 6, 1959, No 24642
Author : Magnitskiy, K. P.
Inst :
Title : Evaluation of Plant Nutrition According to
Their External Appearance.
Orig Pub : Priroda, 1956, No. 7, 61-64

Abstract : Plant indicators may be utilized to expose those regions and districts that suffer from a deficiency or an excess of macro- and micro-elements. As indicators of N deficiency may serve white-head cabbage and cauliflower; of P deficiency - turnip (*Brassica campestris rapifera*) and the turnip kind (*Brassica napus rapifera*); of K deficiency - potato, beet, bean, alfalfa; of Mg deficiency - potato,

Card : 1/2

Country : USSR
Category : Soil Science. Fertilizers. General. J
Author :
Inst :
Title :
Orig Pub :
Abstract : apple, black raspberry; of B deficiency - sunflower, sugar beet, apple; of Mn deficiency - oat, beet, potato, cabbage; of Cu deficiency - oat, wheat, barley, pear; of Zn deficiency - bean, soya, corn, apple, pear, citrus fruits; of Mo deficiency - cauliflower, lettuce, leguminous grasses, citrus fruits. -- I. K. Fortunatov

Card : 2/2

Country : USSR
Category : Soil Science. Fertilizers. General. J

Abs Jour : RZhBiol., No 6, 1959, No 24643

Author : Shmelev, V.; Sitnyanskiy, V.
Inst : Voronezh State Pedagogical Institute.
Title : The Analysis of the Soils' Acidity and of the
Fertilizers' System in the Under-Patronage
Collective Farm "Stalin Put" in Gremyachen-
skiy Rayon of Voronezhskaya Oblast.
Orig Pub : Sb. stud. rabot. Voronezhsk. gos. ped. in-t,
1957, vyp. 2, 33-36

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. Mineral Ferti-
lizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24647

Author : Tulin, A. S.
Inst : Krymskaya Oblast State Agricultural Experi-
mental Station.
Title : Tumulus Ashes as a Fertilizer.
Orig Pub : Tr. Krymsk. obl. gos. s.-kh. opytn. st., 1956,
2, 17-25

Abstract : Tumulus ashes, huge deposits of which were
formed in antiquity in various parts of the
Crimean steppes from the remains of steppe
plants, grain straws and dung, contain 2.1-
3.5 percent of K_2O and 1.0-1.5 percent of
 P_2O_5 . For the Crimean soils, reacting negati-
vely to K, it is only a phosphorus fertilizer

Card : 1/2

Country : USSR
Category : Soil Science. Fertilizers. Mineral Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24647

Author :
Inst :
Title :
Orig Pub :

Abstract : and the dose should not exceed 1.5 t/ha. The total harvest increment of the most important crop-rotation cultivation - corn, winter wheat and winter barley - in one year consisted of 3.5 c of seed and 7.5 c of straw or 7.2 c of fodder units from one acre. --
N. N. Sokolov

Card : 2/2

Country : USSR
Category : Soil Science. Fertilizers. Mineral Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24648

Author : Zemite, A.
Inst :
Title : Soil Requirements of the Livanskiy Rayon (LatvSSR) in Calcium Fertilizers.
Orig Pub : Pochva i urozhay. Riga, 1956, 5, 61-66

Abstract : No abstract.

Card : 1/1

Country : HUNGARY
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24652

Author : Fekete, B.; Hargitai, I.; Mayerne-Kiss, T.
Inst :
Title : Some Data on the Appraisal of the Most Important Organic Fertilizers.
Orig Pub : Agrakem. ea talaj, 1957, 6, No. 4, 337-344

Abstract : Comparative laboratory and field investigations of the more important kinds of organic fertilizers showed that the best proved to be: granulated biocompost (an organic substance mixed with excrements enriched with NPK) among the commercial fertilizers; inodorcompost among the composts; and among the earth-manure mixtures, a mixture in relation of 1 : 4 from

Card : 1/2

Country : HUNGARY
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24652

Author :
Inst :
Title :
Orig Pub :
Abstract : different kinds of manure - a manure, the storage of which was accomplished under concrete shields, according to the method of Kalbay. The properties of humus extraction from various fertilizers were studied by the intensity of absorbed light. On the basis of these investigations, the stability number of humus fertilizers and of composts, and the stability

Card : 2/3

Country : HUNGARY
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24652

Author :
Inst :
Title :
Orig Pub :

Abstract : coefficient, the magnitude of which is proportional to the quantity of the humic stable components, were calculated. -- O. P. Medvedeva

Card : 3/3

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24654

Author : Musich, N. I.
Inst : Yakutsk Branch AS USSR.
Title : Concerning the Application of Organic Mineral Mixtures in Central Yakutia.

Orig Pub : Dokl. na 8-y nauchn. sessii (Yakutskiy fil. AN SSSR). Botan., pochvoved. zool., zootehnika. Yakutsk, 1957 (1958), 67-75

Abstract : In small-plot experiments with winter rye in Yakutia, the effectiveness of 5 t/ha of humus, 5 t/ha of compost, a mixture of humus with manure liquor and 5c/ha of ashes and mixtures of organic fertilizers with ashes were compared. At the application of the fertilizers before sowing, ashes proved to be more effective than

Card : 1/4

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24654

Author :
Inst :
Title :
Orig Pub :

Abstract : organic fertilizers, but mixtures produced the best results. The greatest significance for the increase of crops was the growing winter-resistance of the plants at the introduction of ashes. At the introduction of fertilizers under additional forage in autumn, the effectiveness of all fertilizers was decreased considerably, and the application of

Card : 2/4

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24654

Author :
Inst :
Title :
Orig Pub :

Abstract : ashes gave a smaller increment than the application of organic fertilizers. The vernal additional forage was even less effective. In the experiment with corn on unfertilized ground, 89.8 c/ha of the greens were obtained; the haphazard application of 40 t/ha of manure increased the harvest to 197.7 c/ha, whereas the best variant of the organic-mineral mixture at the

Card : 3/4

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24654

Author :
Inst :
Title :
Orig Pub :

Abstract : introduction into holes produced only 128.8 c/ha. -- Z. I. Zhurbitskiy

Card : 4/4

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24657

Author : Boyarovich, N. M.
Inst : Alma-Ata Selection Station.
Title : Fenugreek in the Fertilization of Vegetables.

Orig Pub : Udobreniya i urozhay, 1958, No. 5, 22-25

Abstract : According to experimental results in the Alma-Ata Selection Station, fenugreek Trigonella or fenugreek Trigonella foenum graecum L. in the fertilization of vegetables secured a high increment in the crops of potatoes and winter wheat. In the south, under conditions of irrigation agriculture and unsupported "bogaras"

Card : 1/2

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24657

Author :
Inst :
Title :

Orig Pub :

Abstract : [a designation for crops cultivation in Central Asia without artificial irrigation], it deserves a wide industrial check-up. — N. N. Sokolov

Card : 2/2

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24658

Author : Nikolayev, M. V.
Inst :
Title : Installation and Exploitation of the Irrigation of Fields in the German Democratic Republic.

Orig Pub : Udobreniya i urozhay, 1958, No. 6, 57-61

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24659

Author : Tikhomirova, L. D.; Rozhkovskaya, A. A.
Inst : Far Eastern Scientific-Research Institute of Agriculture.

Title : Application of Peat as a Fertilizer.

Orig Pub : Byul. nauchno-tekhn. inform. Dal'nevost. n.-i. in-ta s.-kh., 1958, No. 5, 28-31

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24660

Author : Khristeva, L. A.
Inst : Khar'kov University.

Title : Carbonaceous Shale as One of the Possible Prospects of Raw Material for the Production of Humic Fertilizers.

Orig Pub : Sb.: Guminovyye udobreniya. Khar'kov, Khar'kovsk. un-t, 1957, 29-38

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24662

Author : Ovechkin, T. V.; Bitnyy, L. A.
Inst :
Title : Results of the Application of Organic Mineral Mixtures on the Collective Farm "Testament of V. I. Lenin."
Orig Pub : Agrobiologiya, 1958, No. 4, 91-93

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour : RZhBiol., No 6, 1959, No 24663

Author : Zhenatov, A. P.; Rokhtanen, L. S.
Inst :
Title : Concerning the Economic Effectiveness of the Utilization of Peat as a Fertilizer.
Orig Pub : Udobreniye i urozhay, 1958, No. 8, 44-46

Abstract : No abstract.

Card : 1/1

Country : USSR
 Category : Soil Science. Cultivation. Improvement.
 Erosion. J
 Abs Jour : RZhBiol., No 6, 1959, No 24665
 Author : Ivanov, P. K.; Balandina, Ye. I.
 Inst : -
 Title : Deep Plowing in the Southern Chernozems of
 the Regions beyond the Volga.
 Orig Pub : S. kh. Zavolzh'ya, 1958, No. 8, 28-30

Abstract : No abstract.

Card : 1/1

Country Category : USSR
 : Soil Science. Cultivation. Improvement.
 : Erosion. J
 Abs Jour : RZhBiol., No 6, 1959, No 24666
 Author Inst : Pestova, M. N.; Kuppo, V. K.
 : Scientific-Research Institute of Vegetable
 Economy.
 Title : A System of Soil Cultivation in Vegetable-
 Grassfield Crop Rotation.
 Orig Pub : Byul. nauchno-tekhn. inform. N.-i. in-ta
 ovoshchn. kh-va, 1958, No. 4, 40-43
 Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Cultivation. Improvement.
 Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24667

Author : Sidorov, M. I.; Van'kovich, G. N.

Inst : "

Title : Study of the Results in Methods of Basic Soil
 Cultivation in Moldavia.

Orig Pub : Zemledeliye, 1958, No. 9, 64-70

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Cultivation. Improvement.
 Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24668

Author : Yarovenko, V. V.; Kammodov, V. V.; Suchalkina,
 M. I.

Title : Preparation of the Soil on Inclined Surfaces
 during Meadow Cultivation.

Orig Pub : Zemledeliye, 1958, No. 9, 59-63

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Cultivation, Improvement.
Erosion.

J

Abs Jour : RZhBiol., No 6, 1959, № 24699

Author : Sobolev, S. S.

Inst

Title : Methods of Soil Cultivation in Regions of Water and Wind Erosion.

Orig Pub : Zemledeliye, 1958, No. 8, 3-8

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Cultivation. Improvement.
Erosion.

3

Abs Jour : RZhBiol., No 6, 1959, No 24670

Author : Glukhov, V. M.

Inst : Moscow Agricultural Academy imeni K. A. Timiryazev.

Title : The Effectiveness of Various Methods of Autumn Soil Cultivation under the Conditions of Novo-Annenskiy Rayon in Stalingradskaya Oblast.

Orig Pub : Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva,
1958, vyp. 32, 240-246

Abstract : No abstract.

Card : 1/1

Country : USSR
 Category : Soil Science. Cultivation. Improvement.
 Erosion. J
 Abs Jour : RZhBiol., No 6, 1959, No 24672
 Author : Orlovskiy, N. V.; Fesko, K. Ya.; Goppe, G. S.;
 Strugalova, Ye. V.
 Inst : Tomsk University.
 Title : Salination of Soils in the Aley Irrigation
 System and Measures of Prevention and Control
 Thereof.
 Orig Pub : Tr. Tomskogo un-ta, 1957, 140, 82-91
 Abstract : The Aley irrigation system is the largest in
 Altay Kray; its total area consists of 11,000
 hectares. The Soil-Improvement Expedition of
 the Altay Agricultural Institute investigated
 on the irrigated territory of the Rubtsov Sugar-
 Beet Collective Farm causes of secondary salina-
 Card : 1/3

Country : USSR
Category : Soil Science. Cultivation. Improvement.
Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24672

Author :
Inst :
Title :
Orig Pub :

Abstract : tion and methods of its control. After 20 years of irrigation, almost the entire territory is in the grip of secondary salination processes of various intensity. The fundamental reason of soil salination are the very costly mineralized subsoil waters. It is recommended: (1) a strict differentiation of irrigation; (2) realization of planned irriga-

Card : 2/3

Country : USSR
Category : Soil Science. Cultivation. Improvement.
Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24672

Author :
Inst :
Title :
Orig Pub :

Abstract : ted fields; (3) measures to reduce water fil-
tration from the canals; (4) creation of a
thick structural arable layer, and (5) stren-
thening the role played by perennial grasses
in crop rotation, etc. -- G. B. Zakhar'ina

Card : 2/3

Country : USSR
 Category : Soil Science. Cultivation. Improvement.
 Erosion. J
 Abs Jour : RZhBiol., No 6, 1959, No 24673
 Author : Bobchenko, V. I.
 Inst : Academy of Sciences USSR.
 Title : Subsoil Mole Irrigation of the Argillaceous Chernozems in Kurskaya Oblast.
 Orig Pub : V sb.: Orosheniye s.-kh. kul'tur v Tsentr.- chernozem. polose RSFSR. Vyp. 2, M., AN SSSR, 1956, 155-184
 Abstract : Observations of the effect of mole holes without irrigation on soil and plants showed the following: mole holes without apertures at the top (plugged up until the sowing season) increase in May-June the soil humidity, stimulate microbiological activity; in July they dry up the soil and improve the absorption of melted waters. Non-irrigated mole holes add

Card : 1/4

Country : USSR
Category : Soil Science. Cultivation. Improvement.
 Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24673

Author :
Inst :
Title :
Orig Pub :

Abstract : 20-25 percent to the harvest of the sugar beet and vetch-oat mixture. Mole holes with apertures over the anticlines dry up the soil during the greater portion of the vegetative period, increase evaporation, sometimes cause cracking of the soil near the apertures, hold back the rain and melted waters. It is necessary to plug up the mole drains in autumn. At supported irri-

Card : 2/4

Country : USSR
Category : Soil Science. Cultivation. Improvement.
 Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24673

Author :
Inst :
Title :
Orig Pub :

Abstract : gations, the mole holes plugged up in autumn, sustain 3 irrigations per season. At the unsupported method, stability of the mole holes is observable during 2 years. A combination of unsupported and supported methods of irrigation may bring about different soil humidity applicable to agricultural demands. Irrigation along the mole holes decreases the time period for

Card : 3/4

Country : USSR
Category : Soil Science. Cultivation. Improvement.
 Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24673

Author :
Inst :
Title :
Orig Pub :

Abstract : wheat growing and increases the harvest of agricultural products. The supported method of irrigation is recommended for cultivations with a surface root system. Subsoil mole irrigation permits a water-charged flow under the next cultivation, without waiting for the harvest of its predecessor to be collected. -- L. O. Karpachevskiy.

Card : 4/4

Country : USSR
Category : Soil Science. Cultivation. Improvement.
 Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24677

Author : Rabochev, I.
Inst : -
Title : Organization and Installation of Water Irrigation.
Orig Pub : Khlopkovodstvo, 1957, No 9, 37-39

Abstract : The organization and installation of fall-winter irrigation of the cotton-field soils under conditions of artificial drainage are described. the most favorable periods for irrigation are: on weakly and averagely salinated soils, light and averagely argillaceous soils, September - beginning of October; on soils of recent appropriation, August - September. There are also

Card : 1/2

Country : USSR
Category : Soil Science. Cultivation. Improvement.
Erosion. J

Abs Jour : RZhBiol., No 6, 1959, No 24677

Author :
Inst :
Title :

Orig Pub :

Abstract : submitted the norms and number of waterings for the light-in-mechanical-composition soils, at the deep level of ground waters, under the conditions of Chardzhous, Tashauz and Khorezm experimental stations.

Card : 2/2

Country : USSR
Category : Soil Science. Cultivation. Improvement.
Erosion.

Abs Jour : RZhBiol., No 6, 1959, No 24678

Author : Kats, D.

Inst

Title : Utilization of Soil Waters for Irrigation in
the Bukhar Oasis.

Orig Pub : Khlopkovodstvo, 1956, No. 8, 49-51

Abstract : No abstract.

Card : 1/1

Country : USSR
Category : Soil Science. Cultivation. Improvement.
Erosion. J
Abs Jour : RZhBiol., No 6, 1959, No 24681
Author :
Inst :
Title :
Orig Pub :

Abstract : the mineral, and content of the free forms of P₂O₅ in the soil increases to the extent of withdrawal from the forest stands. -- M. L. Yaroshenko

Card : 2/2

THIS PUBLICATION WAS PREPARED UNDER CONTRACT TO THE
UNITED STATES JOINT PUBLICATIONS RESEARCH SERVICE
A FEDERAL GOVERNMENT ORGANIZATION ESTABLISHED
TO SERVICE THE TRANSLATION AND RESEARCH NEEDS
OF THE VARIOUS GOVERNMENT DEPARTMENTS